

REMARKS/ARGUMENTS

Claims 24-50 are pending in the present application. Claims 26-27, 31-34, 42-43, and 46-47 are non-elected claims presently withdrawn from prosecution.

The Office rejected Claim 50 under 35 U.S.C. § 112, first paragraph as failing to comply with a written description requirement. Applicants draw the Office's attention to page 6, lines 17-20 of the specification:

If a diol compound excepting 2,2-dimethylolbutanoic acid, e.g., 2,2-dimethylolpropionic acid, is used, there is less resistance to fiber dropout in washing, resistance to chlorine bleaching agents and resistance to crease whitening when the resin is used for separable fasteners.

Applicants submit the original specification describes the invention of Claim 50 in such a way as to convey to those of ordinary skill in the art that the inventors had possession of the claimed invention at the time the application was filed.

Applicants request withdrawal of the rejection.

Applicants further draw the Office's attention to the Examples of the specification. The Examples of the specification include comparisons of separable fasteners made with different types of aqueous resin dispersions containing a polyurethane resin. The components of the polyurethane resins are described in Tables 3 and 4 on pages 27 and 28, respectively, see Table A below.

Table A

Polyurethane resin aqueous dispersion	Resin components (molar ratio)				
	Macromolecular polyol	Organic diisocyanate	Carboxyl group-containing compound	Tertiary amine	Chain extending agent
PU (1)	PTG1000 (1)	IPDI (3.4)	DMBA (0.75)	DEAE (0.67)	PIP (0.75) HH (0.65) BuAm (0.16)
PU (6)	PTG1000 (1)	IPDI (3.4)	DMPA (0.75)	DEAE (0.67)	PIP (0.75) HH (0.65) BuAm (0.16)
PU (9)	PTG1000 (1)	IPDI (3.5)	DMPA (0.8)	TEA (0.7)	PIP (0.935) HH (0.68)
PU of Example 1 of JP '504	PTG; 1000 (1)	IPDI (3.5)	DMPA (0.8)	Et ₃ N (0.7)*	HH (0.68) PIP (0.935)

* Et₃N is triethyl amine; abbreviated TEA.

One of the resin components is a carboxyl group-containing compound. Two different carboxyl group-containing compounds are used in polyurethanes (1)-(10) of Tables 3 and 4. A first carboxyl group-containing compound is identified as DMBA which corresponds to dimethylolbutanoic acid. A second carboxyl group-containing compound is identified as DMPA which corresponds with dimethylolpropionic acid.

Example 1 as shown in Table 5 on page 29 includes 100 parts of the polyurethane (1) of Table 3. Comparative Example 1 of Table 7 on page 37 of the specification includes 100 parts of the polyurethane (6) described in Table 4 on page 28. Polyurethane (1) and polyurethane (6) are the same with respect to their composition except for the fact that polyurethane (1) includes the carboxyl group-containing compound DMBA whereas polyurethane (6) includes the carboxyl group-containing compound DMPA (see Table B below). Otherwise, these two polyurethane materials are the same with respect to their chemical composition.

Table B

	Aqueous resin dispersion component		PU/acrylic weight ratio
	Resin aqueous dispersion	Curing agent	
Example 1	100 parts PU (1)	3.0 parts CR-5L	100/0
Comparative Example 1	100 parts PU (6)	3.0 parts CR-5L	100/0
Comparative Example 4*	100 parts PU (9)	3.0 parts CR-5L	100/0

* Comparative Example 4 is the same as Example 1 of JP '504.

Polyurethanes (1) and (6) are used to prepare different separable fasteners. The separable fasteners are the same in every respect except for the differences in polyurethanes (1) and (6). Example 1 of Table 5 includes the polyurethane (1). The separable fastener of Comparative Example 1 of Table 7 on page 31 includes the polyurethane (6).

The performance properties of separable fasteners made with the aqueous resin dispersion are provided in Tables 6 and 8 (see Table C below).

Table C

	Resistance to fiber dropout in washing	Washability	Resistance to chlorine bleaching agents	Resistance to crease whitening	Resistance to fiber dropout in washing after durability test			
					After 2 weeks	After 4 weeks	After 6 weeks	After 8 weeks
Example 1	5	5	5	○	5	5	5	5
Comparative Example 1	4	5	2	Δ	4	4	3	3

It is readily evident that Example 1 which includes polyurethane (1) has a substantially improved resistance to chlorine bleaching agents (i.e., a rating of "5") in comparison to Comparative Example 1 which has a resistance to chlorine bleaching agents that is much lower (i.e., a rating of "2").

Applicants have thus shown that the inclusion of dimethylolbutanoic acid as a carboxyl group-containing compound in a polyurethane resin of an aqueous dispersion

provides a separable fastener that has significantly improved performance characteristics in comparison to separable fasteners which are made from aqueous resin dispersions that include dimethylolpropionic acid as the carboxyl group-containing compound.

Applicants draw the Office's attention to previously presented Claim 50. Previously presented Claim 50 limits the separable fastener of Claim 49 to one which has a greater resistance to chlorine bleaching agents than a separable fastener made with dimethylolpropionic acid. Applicants submit that the data of the Examples of the specification are readily recognized by those of ordinary skill in the art as a description of one embodiment of the invention wherein a separable fastener made from dimethylolbutanoic acid has greater resistance to chlorine bleaching agents in comparison to a separable fastener made with dimethylolpropionic acid.

As was mentioned above, Applicants submit that the subject matter of previously presented Claim 50 was described in such a way as to reasonably convey to those of ordinary skill in the art that Applicants had possession of the claimed invention at the time the application was filed.

Applicants submit that Japanese Patent No. 62-112504, cited by the Office in the Office Action of December 22, 2005, is the closest prior art with respect to the prior art cited by the Office. Applicants compared the invention of the present application with the separable fastener of the JP '504 prior art in the specification of the present application in order to demonstrate that the presently claimed invention is not obvious in view of the JP '504 prior art. Example 1 of the JP '504 prior art corresponds with Comparative Example 4 of the present application. Comparative Example 4 of the present specification includes the polyurethane (9) which is described in Table 4 on page 28 of the present specification. A comparison of polyurethane (9) of the present specification with Example 1 of Table 2 on page 14 of the English translation of the JP '504 prior art shows that the polyurethane

materials of present Comparative Example 4 and inventive Example 1 of JP '504 are the same (see Tables A and B above).

The separable fasteners that are derived from present inventive Example 1 and present Comparative Example 4 are described in Tables 6 and 8 (see table C above). Comparative Example 4 (i.e., which corresponds with inventive Example 1 of the JP '504 prior art) provides a resistance to chlorine bleaching agents of only "1" whereas present inventive Example 1 provides a resistance to chlorine bleaching agents of "5". Applicants submit that the data of the present specification provide a side-by-side comparison of the presently claimed invention with the closest prior art (i.e., JP '504) and show that the presently claimed invention provides significantly superior resistance to chlorine bleaching in comparison to the closest prior art.

Applicants have thus demonstrated: (i) the criticality of using dimethylolbutanoic acid instead of dimethylolpropionic acid as the carboxyl group-containing component of a polyurethane resin when making a separable fastener, and (ii) the significantly superior resistance to bleaching agents of the separable fastener of the present invention in comparison to the closest prior art.

Applicants have thus rebutted the Office's allegation of obviousness by providing data showing the superiority of a separable fastener made with dimethylolbutanoic acid in comparison to separable fasteners made with dimethylolpropionic acid. Applicants submit the Office's rejection under 35 U.S.C. § 103(a) is not supportable in view of the data mentioned above and respectfully request withdrawal of the rejection.

The Office Action of March 30, 2006 states that Applicants' exhibit, shown and discussed during an interview with the Examiner on March 20, 2006, must be submitted in the form of a Declaration under 37 C.F.R. § 1.132 in order to be considered probative of patentability. Applicants submit that the exhibit shown during the March 20, 2006 interview

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was for informative and/or instructive purposes. The data of the original specification stand on their own to demonstrate the patentability of the claimed invention.

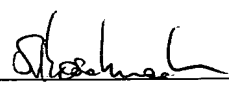
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